

**Notice of Allowability**

**Application No.**

10/749,868

**Applicant(s)**

CHOU ET AL.

**Examiner**

Susan S. Lee

**Art Unit**

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 12/27/05.
2. ☒ The allowed claim(s) is/are 2-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

As to claim 2, page 3 of the claim, in the table defining  $f(t)$ , change

$$"f(t) = e^{2at/\tau} - 1 / (e^{2at/\tau} + 1)" \text{ to}$$

$$- - f(t) = (e^{2at/\tau} - 1) / (e^{2at/\tau} + 1) - - \text{as obviously intended.}$$

As to claim 2, page 3 of the claim, in the table defining  $f'(t)$ , change

$$"f'(t) = a/\tau(1 - f^2(t))" \text{ to}$$

$$- - f'(t) = (a/\tau)(1 - f^2(t)) - - \text{as obviously intended.}$$

As to claim 9, line 3, change "the toner particles" to - - toner particles - -.

As to claim 10, line 3, change "the toner particles" to - - toner particles - -.

The following is an examiner's statement of reasons for allowance:

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The primary reason for allowance of claims 2-6 is the inclusion of determining conductivity and charge per mass includes determining toner particle current according to  $i = i_1 + i_2$  to the relationships as defined in claim 2 where  $i_1 = af'(t)$  and  $i_2 = i_0 \exp(-t/\tau_2)$ .  $i_1$  is toner particle current;  $a$  is square root of  $a^2 = 2\epsilon\zeta A^2 V_0$ ;  $f(t)$  is  $(a/\tau)(1 - f^2(t))$ ;  $i_0$  is initial impurity current;  $t$  is time;  $\tau_2$  is the impurity migration time constant;  $2\epsilon$  is two

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times the dielectric constant of the toner ink/paste;  $\zeta$  is toner charge density;  $A^2$  is the area of the plate, squared;  $V_0$  is applied voltage;  $\tau = (R + R_2)(2\epsilon\zeta A^2)$ ;  $R = d/\sigma A$ ;  $d$  is separation between the plates/distance;  $\sigma$  is conductivity of the ink/paste;  $A$  is the area of the plate;  $R_2$  is the resistance of resistor  $R_2$ ;  $f(t) = (e^{2at/\tau} - 1) / (e^{2at/\tau} + 1)$ ;  $f(t)$  is a function of time; and  $e$  is natural logarithm. This is found in all of claims 2-6, but not disclosed nor suggested by the prior art of record.

The primary reason for allowance of claims 7-10, 15 and 16 is the inclusion of a method of measuring conductivity of a liquid or paste electrophotographic toner having the steps of adjusting the data to remove current contributions attributable to impurity ions; sending the adjusted data to a processor; and determining the conductivity from the adjusted data. This is found in all of claims 7-10, 15, and 16 but not disclosed nor suggested by the prior art of record.

The primary reason for allowance of claims 11-14 is the inclusion of an apparatus for measuring conductivity of a liquid or paste toner having the steps of a processor with analytic capability for adjusting the data to relating to current to remove contributions to the data attributable to impurity ions. This is found in all of claims 11-14, but not disclosed nor suggested by the prior art of record.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 571-272-2137. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 571-272-2136 or 571-272-2800 (Ext. 52). The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Susan S. Lee  
Primary Examiner  
Art Unit 2852

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